Global Bureau, Office of Agriculture and Food Security

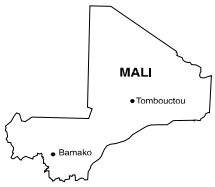
POLICY SYNTHESIS

for Cooperating USAID Offices and Country Missions

(http://www.aec.msu.edu/agecon/fs2/psynindx.htm)

Number 62 December 2002

USAID/Mali and African Bureau Sahel Regional Program



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IMPROVING NUTRITION OUTCOMES THROUGH COMMUNITY HEALTH INITIATIVES

By

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BACKGROUND: In 1998, the Malian Ministry of Health adopted a ten-year health and social development plan (PDDSS) and initiated a five-year operational program (PRODESS) aimed at improving the availability and quality of health services in Mali. The health sector reforms have focused on extending health coverage through the establishment of a decentralized network of community health centers (CSCOM), offering a minimum package of essential health services (PMA) to populations living within a 15-kilometer radius of the clinic. PRODESS also set a specific goal to reduce protein-energy malnutrition in children under 5 years of age by 30%.[1]

These reforms have been successful on many fronts. In 2001, 63% of the Malian population lived within 15 kilometers of primary care, a substantial increase in coverage from the 17% level of 1994. Drugs (in generic form) are readily available and more affordable, communities are empowered to participate in the management of community health centers, and health care planning and management have been decentralized to the district level. The quality of and access to certain components of the PMA have improved, most notably for curative, immunization, and prenatal services. For populations living within 15 km from a CSCOM, immunization coverage continues to increase, and some CSCOM are reporting over 80% of targeted children in their zone to be fully vaccinated. The 2001 Demographic and Health Survey (DHS) reports full immunization rates at 29% for children 12-23 months. Nationwide, the percent of women receiving at least one prenatal visit has increased from 33% in 1987 to 52% in 2001 (*Ministère de la Santé* 2002; World Bank 1999).

Results have been less encouraging with respect to child nutrition. Despite over 10 years of health-sector reforms aimed at increasing access to basic health services, stunting and wasting rates for children under 5 years of age remain high, with no sign of decline. The 1987 DHS found rates of wasting of 11% and stunting of 24% among children 3 to 35 months of age; the 2001 DHS found 14% wasting and 35% stunting for the same age group. A twelve-month longitudinal survey (May 2000-April 2001) of rural households conducted in three regions of Mali as part of the Linkages between Child Malnutrition and Agricultural Growth study (LICNAG) also found high rates of malnutrition in rural children under 5 years of age. The prevalence of wasting for this age group in the regions covered by the study was estimated at 12%, and that of stunting at 36% (Tefft and Kelly 2002). This study revealed considerable variation in stunting

[1] PRODESS advocates the following actions to meet this goal: nutritional education to promote exclusive breastfeeding through the first 6 months; timely introduction of complementary foods; strengthening the nutrition activities in the minimum package of health services (PMA) by improving growth monitoring and promotional activities included in the Integrated Management of Childhood Illness (IMCI) approach; promoting the consumption of foods rich in animal and vegetable proteins and fats; and increased schooling of young girls (*Ministere de la Santé 1998).*

prevalence rates across districts, ranging from 23% in the rice growing zone of Niono, to 48% in the cotton zone of Kolondieba. The differences were even more marked among villages surveyed, with rates from below 10% in some villages to more than 60% in others. LICNAG study results highlight the degree to which nonhealth factors (e.g., poverty, insufficient caregiver time for care and feeding, poor access to nutrient-rich complementary foods) directly affect nutritional outcomes or condition the ability of caregivers to adopt recommended practices.

While a reduction in malnutrition rates will require actions that cut across many sectors, the health-sector reforms have created a favorable environment to facilitate the establishment of organizational structures from the grassroots to the national level, and to help foster the development of multisectoral, nutrition-relevant actions needed to address the persistently high rates of malnutrition among children. At the local level these conditions include the decentralization of the health system, community participation and empowerment for health care management, and progressively increased geographic and financial access to primary health services. At the national level, these include the creation of the Food and Nutrition Monitoring Division (DSSAN) in the Planning and Statistics Unit (CPS) of the Ministry of Health in 1999 and the Nutrition Division (DN) in the National Health Department in 2001 to design and implement nutritional interventions laid out in the minimum package of activities offered by community health centers. Within this framework, the government needs to take action to develop a national nutrition strategy that demonstrates multisectoral political commitment to reducing childhood malnutrition.

OBJECTIVES AND METHODS: This synthesis analyzes the views and perceptions of Malian health professionals concerning opportunities and constraints for improving health and nutritional outcomes of children 0 to 5 years old. Although the findings draw primarily on discussions with Ministry of Health officials and interviews of other Malian health professionals undertaken as part of the Linkages between Child Malnutrition and Agricultural Growth study, the overall analysis includes references to results from other LICNAG surveys at the household and commune levels.

KEY FINDINGS:

Nutrition is an invisible problem. Interviews with community health professionals from the 24 health centers covering the survey zone revealed that the majority of them are not aware of the extent and gravity of wasting and stunting in their zone. Malnutrition was only mentioned by one health worker – out of the more than 50 interviewed – as a major health concern for children, despite the high rates of stunting and wasting in all the zones covered by these health centers.

Malaria and diarrhea were reported to be the major health problems of children at all the health centers visited. Health personnel also reported frequent cases of respiratory infections, parasites, and cough. Nurses in the Kolondieba district located in the Sikasso region also cited the growing difficulties they faced in responding to AIDS-related illnesses.

While some health interventions that are essential for nutrition (maternal care, immunization, disease management) are systematically offered by all the health centers visited, discussions with CSCOM personnel revealed that none of the CSCOMs in the survey zones were currently organizing regular and systematic preventive or promotional services aimed specifically at improving nutritional outcomes for children under 5 years of age. Such services would include promoting exclusive breast-feeding for 6 months, appropriate complementary feeding with continued breast-feeding until 24 months, appropriate nutrition management during and after illness, and adequate consumption of vitamin A, iron, and iodized salt.[2] In addition, promotion of preventive measures that would reduce children's exposure to

[2] The Ministry of Health's minimum package of health services includes curative, preventive and promotional services related to health, nutrition and hygiene: disease treatment and prevention (antimalarial), immunization, maternal care, good hygiene and use of potable water, child growth monitoring, micro-nutrient supplementation (vitamin A, iron, iodine), and support for and promotion of exclusive breast-feeding for the first 6 months, timely introduction of energy and nutrient rich complementary foods, consumption of iodized salt and use of insecticide-treated bed nets.

Box 1. CSCOM perceptions of the causes of child malnutrition
Interviews with Health Center Personnel, May 2002

"People don't eat what they produce. There are a lot of foodstuffs produced but they are sold rather than prepared and consumed in the home. There is a mentality of selling. It is a problem of behavior rather than a problem of food availability. Fathers are not involved with child care and development." Kolondieba

"People don't know how to use local products. Men don't want to pay for medicine." Bandiagara

"People eat poorly here. They only eat millet, luckily they eat the entire grain and don't polish it. Otherwise, people don't eat meat in this zone. Sometimes they eat fish, but they could for example eat beans and peanuts, but they don't." Koro

"There is a lack of monitoring of children. There is a lot of malnutrition. The children that die are always malnourished. Even if they have a slight case of malaria they die." Koro

"Women don't eat enough when they are nursing. In order for a child to be well nourished, his mother must be well nourished too." Koutiala

"Most malnourished children have been weaned abruptly because of a new pregnancy. With a new pregnancy, a child is sent to live with the grandmother, who does not know how to feed the child." Koutiala

life threatening diseases such as malaria and diarrhea, which often have more severe consequences for malnourished children, was weak. Neither the promotion of bed nets by community health centers nor the organization of actions to improve hygiene and sanitation was widespread. No community health center stocked bed nets for sale or distribution.

Inadequate feeding practices and care behavior are believed to be the main causes of malnutrition. Upon presentation of the LICNAG study findings to CSCOM health staff, health personnel offered a list of factors contributing to the high prevalence of wasting and stunting in their zones (see Box 1). Poor feeding practices for children were mentioned most frequently and attributed to inadequate diets for mothers, abrupt weaning, nonmaternal caregivers, poor knowledge of and access to nutritionally rich food, poor hygiene, and nonpotable water. Other contributing factors noted were illness and parasites and the lack of participation, support and commitment of fathers in the daily management of child growth and development (see Wise et al. 2002 for information on caregivers' and family members' perceptions of the causes of child malnutrition).

Box 2. Health personnel perceptions of how to improve child nutrition
Interviews with Health Center Personnel, May 2002

Child growth monitoring
"You must monitor child growth, do follow-up and be able to prevent and treat illness." Bandiagara

"You need to weigh children monthly and give a little present (incentive) to mothers whose children are in good health. That way, they will follow through with the recommendations. As it is, women will prepare special foods for the child for 1 or 2 months, but after that they say that they are tired of doing so and they return to their old habits." Bandiagara

"You need to do household monitoring of children. You have to spend time with the parents, watching what children eat and instructing the parents on correct feeding practices." Koutiala

"You need more personnel. Many centers in the district are managed by a health aid and do not have a nurse. Without more staff, there is little hope that you can do growth monitoring or educational activities. Second, the district-level health team is unable to provide the technical support needed to organize these activities, due to a lack of training and funds." Macina

Health and nutrition education
"Health and nutrition education at the village level is essential for improving nutrition." Macina

"IEC is the priority activity to reduce malnutrition. You need materials for demonstrations and funding for outreach. You also need to train the personnel." Macina

"You need to do outreach and education activities. You need to visit households to monitor children. You must make sure that all kids are immunized and treat their illnesses." Koutiala

Education, growth monitoring, and disease management are proposed solutions. The majority of health personnel felt that child nutritional status could be improved through health and nutrition education to develop good child-feeding and care-seeking behavior, regular child growth monitoring, and increased access to micro-nutrients (see Box 2).

Disease management, deworming, and food supplementation were also mentioned. Health personnel spoke often of the need to mobilize communities to participate in the design, implementation, and monitoring of nutrition interventions. It is not apparent, however, how the communities will be mobilized to undertake such interventions if the CSCOM personnel themselves don't perceive malnutrition as a major problem.

Educational outreach is essential for improving child nutrition. Interventions to develop appropriate care and feeding practices were cited by health personnel as an activity capable of improving the nutritional status of children. However, despite the importance given to behavior change during interviews, none of the centers had developed or collaborated with other organizations in the development of a communication strategy for behavior change based on an assessment of the local situation, priority problems, and available resources. At the most, centers were offering occasional cooking demonstrations supported by contributions from the community or in some cases financed out of the pocket of health personnel. Although some respondents noted the problem of poverty that constrained many families from improving diets and seeking health care, others did not seem fully aware of the poverty-related constraints that prevent families from providing adequate care of very young children, even when the families recognize such care is needed (see Wise et al. 2002).

Opportunities to provide information and counseling on nutrition practices to mothers during visits to health centers, either for child health care or maternal care, were not systematically utilized. In fact, none of the nurses and midwives interviewed had support materials to help counsel and advise caregivers on child nutrition practices. Moreover, only a handful of health personnel reported having received some training in nutrition (provided by non-governmental organizations – NGOs).

Growth monitoring and promotion must accompany educational outreach efforts. Nutrition education cannot take place in isolation from regular growth monitoring. Regular growth monitoring is an essential tool to assess the nutritional situation of children and to show caregivers, communities and districts whether the nutrition situation of their children is or is not improving over time. Only five centers reported to be monitoring child growth. Of these, two were working with NGOs at the village level, measuring and weighing children. The other three centers were using growth charts which plot weight-for-age, and were monitoring only those children who came to the center for immunizations. When health professionals from other centers were asked how they identified a malnourished child, most said they relied on clinical signs (which are only visible in cases of severe malnutrition).

While growth monitoring is done to assess nutritional status, to correct any problems and promote proper growth, caregivers, communities, and health personnel need the capacity to analyze the causes and identify appropriate actions when the monitoring reveals problems. Health centers that were monitoring children's growth had no systematic procedures for using the data, communicating with caregivers or communities, and following up with malnourished children. Moreover, the centers did not have the capacity to link the results of individual growth monitoring to community-level discussions of actions needed to resolve health and nutrition problems.

Micro-nutrients are recognized as theoretically important but are neglected in practice. Most health agents interviewed stated that children would benefit from multi-vitamin supplementation, and all health agents were aware of health benefits of vitamin A supplementation for children (although there were many misconceptions concerning recommended doses for children and women). Outside of mass distribution campaigns organized country-wide during national immunization days, regular vitamin A supplementation to young children was very sporadic in the survey zone. Even though most health agents had heard of iodized salt, only two were able to confirm that iodized salt was available on the market in their zone, suggesting very little awareness of the national iodine deficiency disorder program – which promotes the universal consumption of iodized salt for all Malians – and little promotion of iodized salt consumption at the community level by health personnel. On the other hand, iron was systematically prescribed to pregnant women at prenatal consultations.

Health personnel call for more community participation in nutrition planning and implementation. Health personnel felt that an increased awareness of the problems of malnutrition by parents and communities was an essential first step to any initiative to improve the situation (we would add that increased awareness on the part of health workers is also needed, given that only one provider interviewed mentioned malnutrition as a health problem). There was general agreement that parents did not recognize moderate malnutrition and that even in the cases of severe malnutrition, parents were reluctant to bring children to the health center for consultation. Over 90% of the health personnel said that it was rare to see a severely malnourished child at the center. While caregivers may not recognize child health problems as stemming from malnutrition, other results from this study indicate that many caregivers recognize that young children need more attentive child care and careful feeding, but that a variety of socio-economic constraints often prevent parents from providing it (Wise et al. 2002).

Most health personnel felt that communities needed to be mobilized and involved in assessing the causes of malnutrition and finding solutions if children's nutritional status is to improve in their zone. They felt that community workers could be trained to monitor children's growth and assess nutritional status, and that these workers could report cases of malnutrition and refer those who are malnourished to the health center. However, certain challenges in working with communities were raised by some health agents. The main concern was the capacity of health centers to mobilize communities, provide the training needed to community health workers and supervise activities at the community level. Some health personnel felt they did not have the time nor resources to expand activities as they were already struggling to provide current outreach activities. Another concern was how to motivate community workers to continue to perform their tasks, since most of them serve as volunteers. This has been a major problem for many community health management associations (ASACOs), and any additional community-based activities will require some additional resources. Other concerns expressed by health personnel were the high rate of illiteracy, especially of women, and poverty that constrained many families from improving diets and seeking health care.

Over 70% of the people interviewed stated that either the presence of an NGO or a "project" in their health zone would be necessary for community nutrition interventions. Some health centers had positive experiences working in collaboration with an NGO on a specific project. NGOs have a vast amount of experience working with communities throughout Mali and can facilitate the communication between and collaboration with communities and health centers. They can also provide relevant training. This point was corroborated by interviews with elected officials at the commune level (see Tefft et al. 2003).

RECOMMENDATIONS FOR MOVING FORWARD: Discussions with health personnel revealed that despite the high rates of malnutrition in their zones, health staff were unaware of the extent of the problem, and offered few services to improve the situation. This does not mean that health centers, caregivers, and communities don't want well-nourished children. But what it does suggest is that: (a) there is little knowledge about the effects of poor nutrition on children's health, growth and development; and/or (b) even when malnutrition is recognized as a problem, a lack of resources (time, money, child care support, access to nutritious food) at the individual or community level limits the ability to take action. A lack of services at the health center to improve nutrition is also a result of very little effective demand at the local level, among families and communities, for improved nutrition practices (see Tefft et al. 2003).

For Mali to move forward with the fight against malnutrition, a key strategy will be to support actions at the community level to develop effective demand for nutrition interventions. Effective demand represents a perceived need backed up by the resources necessary to address that need. If local health centers are to play a central role in facilitating actions for improved nutrition, a first step should be an educational campaign directed at health personnel at the district and community levels. The campaign should cover the scope of the nutrition problem, serious consequences and causes of malnutrition, and

how to recognize malnutrition in children. One possibility would be to organize outreach sessions at the district level for health personnel (and agents from other key technical services), built around the specific findings of the LICNAG study.

The same information should be directed at communities, NGOs, and other technical sectors. Awareness of the serious consequences that poor nutrition has on child welfare as well as on economic development will motivate individuals and communities to seek ways to address the nutritional problems they face. Using the "triple A cycle" approach developed by UNICEF, consisting of assessment, analysis, and action with communities, will help create awareness by health personnel of the many constraints that prevent caregivers from choosing the best actions when it comes to children's nutrition. The LICNAG study found that caregivers were unable to follow desired feeding practices, even if they wanted to, because of a mix of factors. For example, economic constraints required that women return to work in the fields soon after giving birth and often kept women from breastfeeding on demand when they were working in the fields (Wise et al. 2002).

A second action could be to bring health personnel, other partners together with local government and communities to assess the nutritional problems identified by the LICNAG study, analyze the causes, and identify actions that can be taken at the local level to improve the situation (e.g., community support to mothers after giving birth, new ways of organizing child care services, child growth monitoring)(see Tefft et al. 2003). Specific indicators should be identified with the participation of the population to monitor the process and impact of any actions taken. Such a monitoring system at the local community level will also provide information on what does and does not work, the process put in place and necessary resources. These lessons need to be documented, centralized, disseminated, and discussed (efforts in the DSSAN/CPS to develop a monitoring and evaluation unit, SISINAS, need to be accelerated). This will help stakeholders better identify the conditions needed for successful nutrition programming, facilitate partner participation, and expedite the scaling up of activities.

If health centers are to play the lead role in catalyzing actions for improving nutrition with communities, health staff will need to be trained not only in nutrition, but also in local capacity building, participatory planning, social mobilization, and targeted interpersonal communications. In addition to skills to assess the nutritional status, analyze the causes, and identify appropriate actions, health agents would also need the capacity to provide ongoing training and support to community workers on how to collect, organize and use information, and be able to solve specific problems that go beyond the skills of the community worker. Given the wide range of medical skills and tasks already assigned to the existing CSCOM personnel, the addition of these new nutrition skills and tasks without an increase in personnel or some type of multisectoral sharing of responsibilities at the local level appears to be a very unrealistic recommendation. The approach to obtaining these skills and accomplishing these tasks will depend on the types of human and financial resources that can be mobilized at the local level. In some cases it may be possible for the CSCOMs to provide most of these services and skills, but in other cases there may be a need for other agents or organizations (e.g., literacy training programs, farmers' associations, *Institut d'Economie Rurale*, *Institut National de la Recherche en Santé Publique*) to make important contributions to funding, implementation or the monitoring and evaluation needs of a nutritional program (see Tefft et al. 2003 for more discussion of this).

Creating awareness at the local level through the type of outreach activities proposed above, and generating demand for nutrition interventions will also help in mobilizing the resources needed for new programs. Within the current health financing system, costs of health services are shared between the state, development partners, local authorities, and community financing mechanisms. As a budget line

item, nutrition interventions represented less than 0.2% of the Ministry of Health's 2003 budget.[3]

Given its low budget share, it would appear that nutrition funding could increase if there was strong enough advocacy at the national level. As district health teams work with CSCOMs, communities, and development partners to design and implement pilot nutrition actions, it will be important to determine the unit cost of each intervention and its cost effectiveness. The challenge will be to design effective, sustainable financing mechanisms for nutrition interventions given the high demands already facing the community to finance salaries, operating and maintenance costs, and outreach activities. Closer collaboration between the health sector and communes may provide opportunities for using locally-managed revenues (i.e., commune and village association) to finance nutrition interventions. At the same time, there has to be multisectoral awareness of the problem, including the priority on generating increased economic growth (initially through agriculture) to help finance efforts at both the individual and community levels.

A coordinated effort among sectors at all levels is needed to develop recommendations on specific policy and programmatic actions that will support the community-led processes to improve nutrition. Such an approach will serve to bring together the analytical skills and financial resources of the diverse ministries and departments that have a vested interest in improving the nutritional status of all Malians. Given the magnitude and urgency of the nutritional problems in Mali, it will be important that the institution(s) created to promote a multisectoral approach have the political status necessary to obtain cooperation from a broad spectrum of government and private stakeholders while avoiding the potential pitfalls for political infighting that could develop, particularly across ministries.

Political commitment in the form of new policy and support for nutrition will require that genuine awareness of the nutritional problem be created not only at the community levels but at the regional and national levels as well. Political commitment needs to be linked to having a good vision of the depth and breadth of the problem, a coherent approach to nutrition programming, and good coordination of inputs and available resources, given the multidimensional causes of the nutrition problem in Mali. Outreach sessions at the national level to create these conditions should be built on the results of the processes initiated at the community and district levels.

CONCLUSIONS: The LICNAG survey, along with other national surveys, reveals that malnutrition in children is a major health problem that shows little sign of improving without a committed effort by the government. Interviews with health workers highlight the degree to which malnutrition goes undetected in communities, by caregivers and even by health personnel, and how a lack of information on the nutritional situation of children deters putting in place the necessary conditions for improvement. Creating awareness of the nutrition problem at the local level, including the impact on child survival, and growth and development, as well as the multidimensional causes of malnutrition, will create an effective demand for nutrition interventions. Full participation of communities in the assessment of the problem, the analysis of causes, and the choice of actions is essential for successful interventions. Local pilot initiatives need to be monitored using process and impact indicators and the results documented so that lessons can be learned and initiatives scaled up. Financing opportunities to support local level initiatives will most likely include a combination of external donor funding and locally-managed revenues generated by communes and village associations. A coordinated effort between sectors to eliminate the various underlying causes of malnutrition will require a good vision of the problem and a coherent approach to programming at all levels.

[3] These interventions were focused on programs related to iodized salt, vitamin A, the development of local products and pilot projects for nutritional monitoring in Ségou, exclusive breastfeeding in Mopti, cereal banks in Gao, and another program affiliated with the Ministry of Social Development.

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Work for this summary was conducted under the Food Security II Cooperative Agreement (PCE-A-00-97-00044-00) between Michigan State University and the United States Agency for International Development, through the Office of Agriculture and Food Security in the Economic Growth Center of the Global Bureau (G/EGAT/AFS). Supplemental funding for this research was also provided to the FS II Cooperative Agreement by USAID/Mali.